



MODEL SB1044 CUTTING FLUID KIT



Instruction Sheet

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	⚠ WARNING BIOLOGICAL & POISON HAZARD!
	Use the correct personal protection equipment when handling cutting fluid. Follow federal, state, and fluid manufacturer requirements for proper disposal.



Figure 1. Model SB1044.

Introduction

This cutting fluid kit is for the Model SB1029 Surface Grinding Machine. The system is designed to pump water-soluble cutting fluid to minimize grinding wheel wear, load-up, glazing, and heat. Using cutting fluid helps maximize the quality of workpiece results, especially on materials that should not be ground dry.

Specifications

- Motor 1/8 HP
- Phase & Cycle 3-Phase & 50/60 Hz
- Voltage 220V/440V
- Current 0.3/0.15 Amps
- Pump Type Jet
- Pump Flow 8.2 GPM
- Cutting Fluid Type Water-Soluble Only
- Maximum Tank Capacity 9 Gal.
- Net Weight 73 lbs
- Country of Origin Taiwan

If you need help with your new model SB1044 Cutting Fluid Kit, contact us at:
PHONE: (360) 734-1540
FAX: (360) 676-1075
EMAIL: sales@southbendlathe.com

Unpacking

This item was carefully packaged to prevent damage during transport. If you discover any damage, please immediately call Customer Service at (360) 734-1540 for advice. You may need to file a freight claim, so save the containers and all packing materials for possible inspection by the carrier or its agent.

Inventory

Item:	Qty
• Tank Assembly w/Pump	1
—Drain Hose 1 3/4" x 5'	1
—Hose Clamp 1 3/4"	1
—Delivery Hose 1/2" x 9'	1
—Hose Clamp 1 3/4"	1
—Flex Conduit Power Cord 9'	1
—Drain Adapter.....	1
—Swivel Caster Wheels.....	4
• Splash Guard	1
—Button Head Cap Screw M6-1 x 10	4
—Front & Rear Splash Panel.....	1 Ea
• Coolant Trough	1

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Installation

During the installation process of your cutting fluid kit, you'll need the following items:

For Power Connection

- A power source that meets the minimum circuit requirements for this machine.
- A qualified electrician to ensure a safe and code-compliant connection to the power source.

For Assembly

- Phillips Screwdriver #2
- Cotton Rags and Silicone Sealant
- Hex Wrenches 3, 5mm
- Safety Goggles
- Wrench 27mm

To install the cutting fluid kit:

1. DISCONNECT THE SURFACE GRINDER FROM POWER.
2. Fasten the four swivel caster wheels to the tank, and make sure the drain plug is tight.

Tip: Place one or more strong magnets at the bottom of the tank to collect fine metal particles from the cutting fluid.

3. Route the pump power cord around the backside of the surface grinder, or fasten it up and away from the floor.
4. Connect the SB1044 power cord to the surface grinder as outlined on the **Model SB1029 Pump Connection Wiring Diagram** on **Page 7**.

If the surface grinder uses a 440V power supply, the pump motor must be rewired as shown in the **OPTIONAL 440V 3-PHASE CONNECTION** diagram on **Page 7**.

5. Remove the existing chip shield and drain cover from the table, as shown in **Figure 2**. Retain the fasteners to install the SB1044 splash guard and port.

Note: For shipping purposes, the front and rear splash panels are fastened together with four wing nuts on the rear splash guard wall.

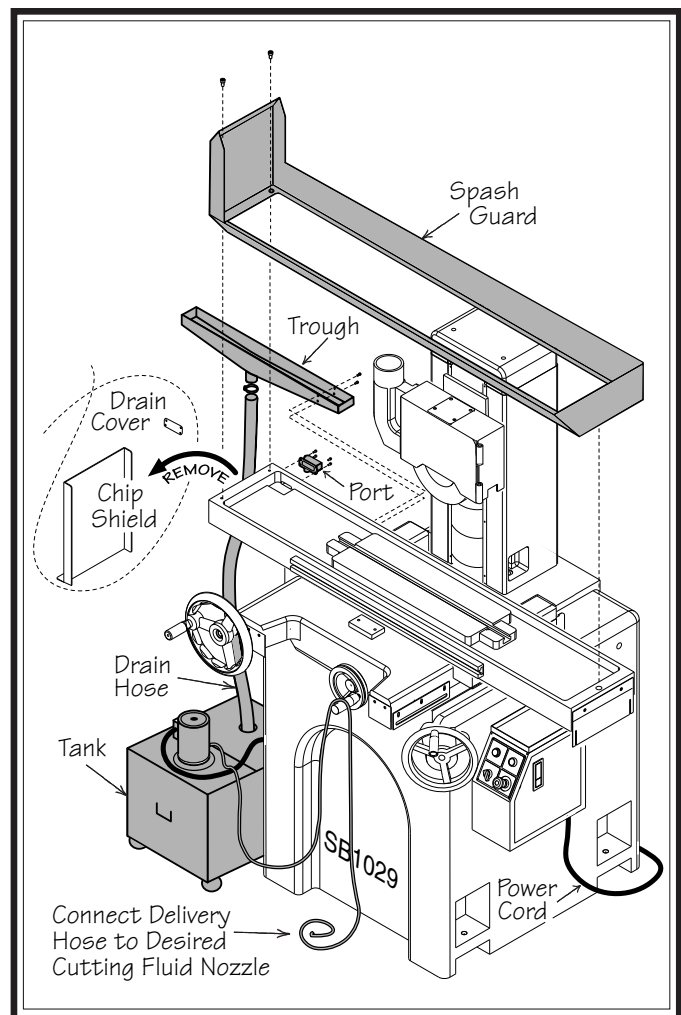




Figure 2. Cutting fluid system installation.

6. Apply silicone sealant to the mounting flange of the port shown in **Figure 2**.
7. Using the fasteners from the machine in **Step 5**, install the port, splash guard, and the trough to the machine, as shown in **Figure 2**.
8. Insert one end of the drain hose into the tank, and fasten the other end to the trough using the hose clamp.
9. Route the delivery hose out of the way and fasten the delivery hose to your desired cutting fluid nozzle with the hose clamp.
10. Fill the tank with premixed water soluble cutting fluid.

Operation

Only use high quality water-soluble cutting fluid in this system. Never attempt to pump straight cutting oils or kerosene. If you do, the higher viscosity of the oil will overload the motor, causing damage, or flammable liquids may ignite.

Following the cutting fluid manufacturer's guidelines, check and maintain the specific gravity of the cutting fluid to its required level. Change the fluid when it becomes overly dirty, rancid, or contaminated.

	<p>! WARNING BIOLOGICAL & POISON HAZARD!</p> <p>Use the correct personal protection equipment when handling cutting fluid. Follow federal, state, and fluid manufacturer requirements for proper disposal.</p>
	

NOTICE

Running the pump without adequate fluid in the tank may permanently damage it. This damage is not covered by warranty.

To use the cutting fluid system:

1. Make sure the cutting fluid is properly serviced and the tank is filled.
2. Put on the necessary personal protection equipment.
3. Position the cutting fluid nozzle for your operation.
4. Use the control panel coolant switch to turn the cutting fluid pump **ON**.



Figure 3. SB1029 control panel.

5. Adjust the flow of cutting fluid for the type of flooding required.

Note: Promptly clean any splashed cutting fluid from the floor to avoid a slipping hazard.

Maintenance

When you replace the old cutting fluid, take the time to thoroughly clean out both sides of the tank. Make sure to dispose all old fluid according to local regulations. Cutting fluid is considered hazardous waste by the EPA. Follow all disposal and storage guidelines when changing and disposing of cutting fluid.

Tip: Maintaining the specific gravity of cutting fluid with a hydrometer or refractometer can greatly extend the life of cutting fluid and reduce operating costs. Properly maintained cutting fluid allows for better cutting and longer grinding wheel life.

Items Needed:	Qty
New Pre-Mixed Cutting Fluid.....	9 Gallons
Safety Goggles.....	1
Rubber Gloves.....	1-Pair
Wrench 28mm.....	1
5-Gallon Bucket w/Lid.....	2
Hex Wrench 3mm.....	1
Hot Soapy Water or Mineral Spirits....	As Needed
Waste Coolant Drain Hose.....	As Needed
Cotton Rags.....	As Needed
Mineral Spirits.....	As Needed
Magnets.....	Optional

To change the cutting fluid:

1. Remove the four button head screws and washers from the tank cover.
2. Open the tank cover so the cutting fluid can be seen.
3. Fasten the waste coolant drain hose to the coolant nozzle. If the connection is questionable, use a hose clamp to ensure it does not leak.
4. Place the other end of the drain hose into one of the 5-gallon buckets. Clip or wire the hose in place so it won't come out of the bucket when the pump is turned **ON**.
5. Open the flow lever on your cutting-fluid nozzle all the way open, and turn the cutting fluid pump **ON**. Do not leave the area as you will need transfer the hose to the other bucket to prevent over-filling and spills.

NOTICE

Leaving the pump running with an empty cutting fluid tank can damage a pump. Shut the pump OFF immediately when the fluid slows or stops coming from the drain hose.

6. When the fluid stops flowing, immediately turn the pump **OFF**, and disconnect the drain hose.
 7. Disconnect the machine from power, lift the pump and cover from the tank, and set it aside for cleaning and inspection.
 8. Remove the drain plug, and pour the remaining cutting fluid from the tank into the 5-gallon bucket.
 9. Seal the buckets with their lids.
 10. Mark or tag the buckets as hazardous waste (according laws and regulations).
 11. Using a solution of soapy hot water and rags, clean and dry the tank, the pump, and the cover. If the tank residue is oily, clean with mineral spirits instead of soapy water.
- Tip:** Place one or more strong magnets at the bottom of the tank to collect fine metal particles from the cutting fluid.
12. Reinstall the drain plug.
 13. Mix the new cutting fluid with water in the required ratio until the fluid reaches the specific gravity indicated by the fluid manufacturer.
 14. Pour the cutting fluid into the tank. To prevent the pump from running dry, never use less than four gallons of cutting fluid.
 15. Point the cutting fluid nozzle into the coolant trough and open the valve.
 16. Turn the machine and pump **ON** to verify that fluid cycles properly, then turn it **OFF**.

Troubleshooting

Symptom	Possible Cause	Possible Solution
<p>Little or no cutting fluid is being pumped. Pump and motor may also vibrate or be noisy.</p>	<ol style="list-style-type: none"> 1. No power; voltage is incorrect. 2. Blown fuse/tripped circuit breaker at main panel. 3. Coolant level is too low, and pump cavitation is occurring. 4. Coolant is incorrect, or is too thick and incorrectly mixed. 5. Pump is operating in reverse. 6. Motor or cover is loose. 7. Debris is obstructing pump suction or impeller is damaged. 8. Plug or receptacle is corroded or mis-wired. 9. Break or short in wiring; or loose connections. 10. Pump ON/OFF switch at fault. 11. Motor connection wired incorrectly. 12. Emergency stop button is at fault. 13. Thermal relay has tripped. 14. Transformer is at fault. 15. Contactor not energized/has poor contacts. 16. Motor at fault. 	<ol style="list-style-type: none"> 1. Switch power supply <i>ON</i>/verify machine and pump voltages match. 2. Correct the cause of overload, then reset/replace fuse or breaker. 3. Fill coolant tank with a minimum of four gallons of cutting fluid. 4. Use water-soluble cutting fluid, or add water to lower fluid viscosity. 5. Pump power supply wires are connected out of phase. Swap any two pump power supply power leads. 6. Tighten any loose fasteners. 7. Remove pump, remove impeller cover, clean and replace as required. 8. Clean/retighten contacts; correct the wiring. 9. Trace/replace broken or corroded wires; fix loose connections. 10. Replace switch. 11. Wire motor correctly (refer to inside junction box cover or manual). 12. Reset or replace emergency stop switch assembly. 13. Improve pump motor cooling and airflow. Disconnect machine from power, manually reset thermal relay, and slightly turn-up trip setting. 14. Test/replace transformer. 15. Test all legs for power, test field coil and replace if at fault. 16. Test for shorted windings, bad bearings and repair or replace.

Electrical Safety Instructions

These pages are accurate at the time of printing. In the constant effort to improve, however, we may make changes to the electrical systems of future machines. Study this section carefully. If you see differences between your machine and what is shown in this section, call Technical Support at (360) 734-1540 for assistance BEFORE making any changes to the wiring on your machine.

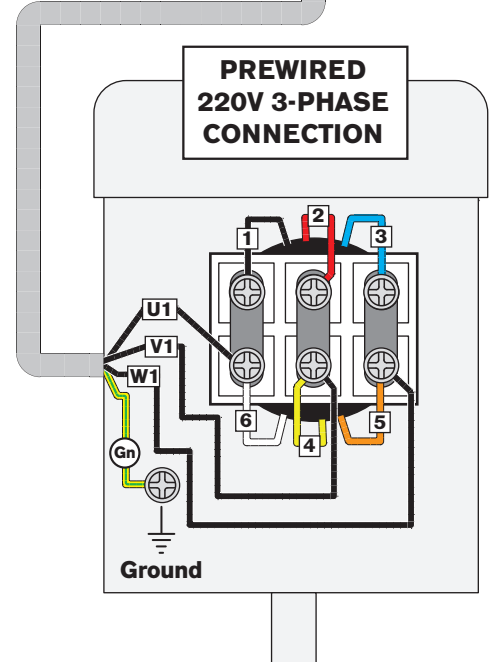
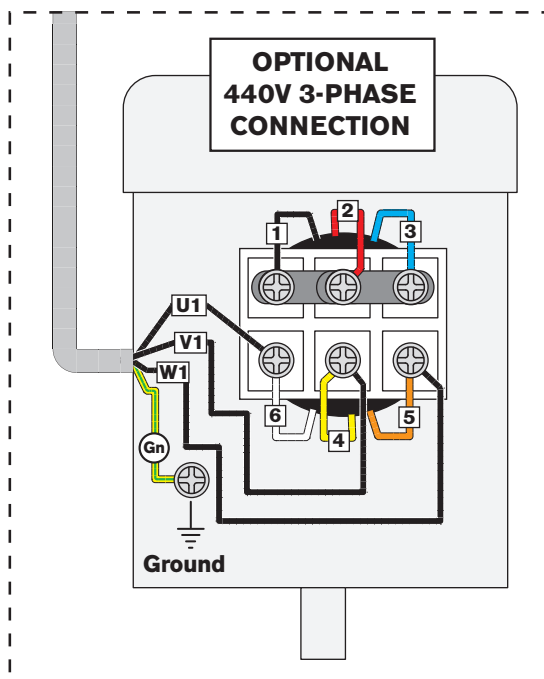
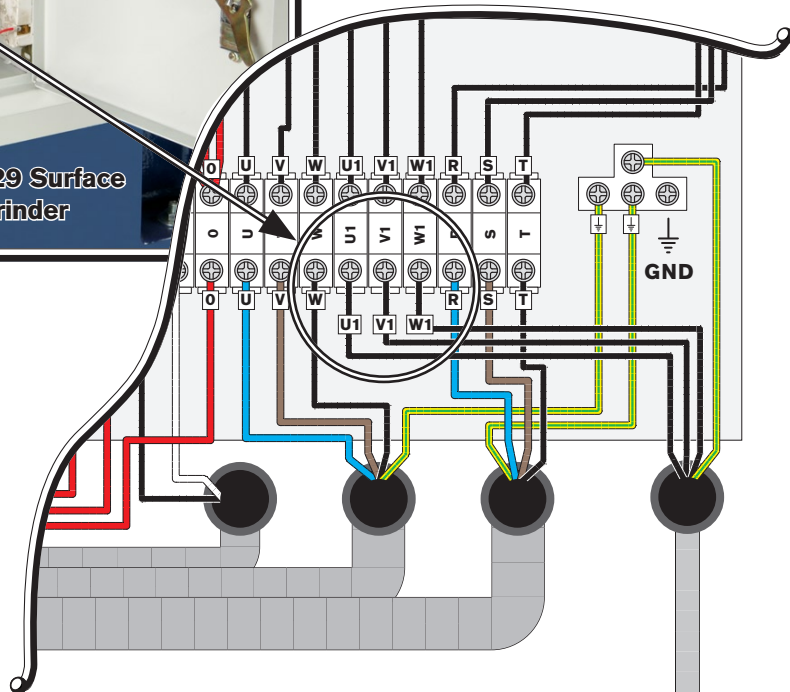
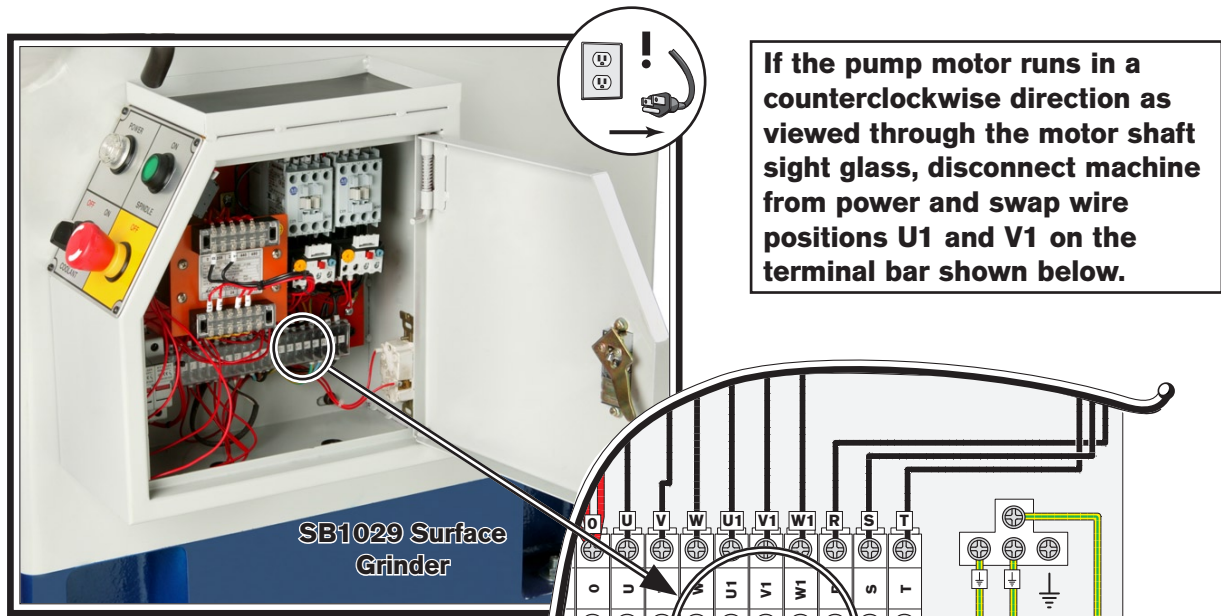
- Shock Hazard:** It is extremely dangerous to perform electrical or wiring tasks while the machine is connected to the power source. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. For your own safety, disconnect machine from the power source before servicing electrical components or performing any wiring tasks!
- Wire Connections:** All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.
- Modifications:** Using aftermarket parts or modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire.
- Motor Wiring:** The motor wiring shown in these diagrams is current at the time of printing, but it may not match your machine. Always use the wiring diagram inside the
- Circuit Requirements:** Connecting the machine to an improperly sized circuit will greatly increase the risk of fire. To minimize this risk, only connect the machine to a power circuit that meets the minimum requirements given in this manual.
- Capacitors/Inverters:** Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.
- Wire/Component Damage:** Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components before completing the task.
- Experiencing Difficulties:** If you are experiencing difficulties understanding the information included in this section, contact

WIRING DIAGRAM COLOR KEY

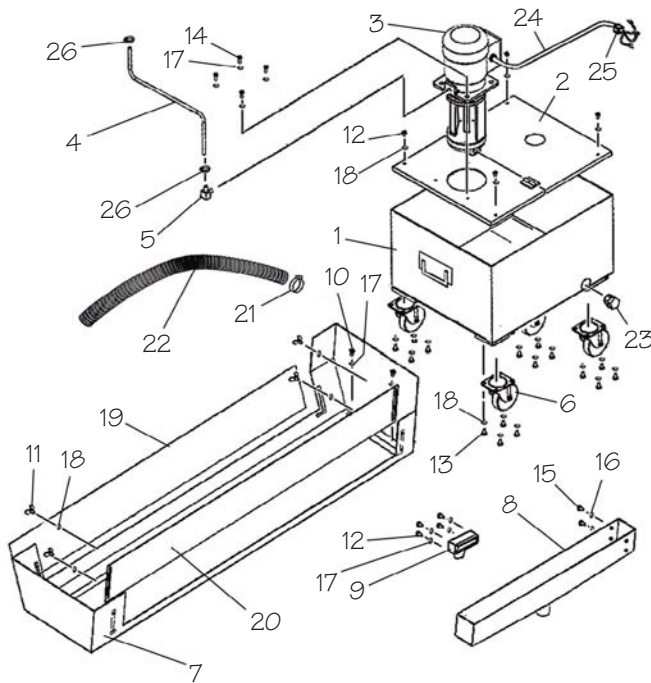
BLACK — Bk	BLUE WHITE — Bw	RED — Rd	PINK — Pk	WHITE — Wt
BLUE — Bl	GREEN — Gn	LIGHT BLUE — Lb	PURPLE — Pu	YELLOW GREEN — Yg
BROWN — Br	GRAY — Gy	ORANGE — Or	TUR-QUIOSE — Tu	YELLOW — Yl

NOTICE: The photos and diagrams included in this section are best viewed in color. You can see them in color at www.southbendlathe.com.

Model SB1029 Pump Connection Wiring Diagram



Parts Diagram



Please Note: We included this parts breakdown for service purposes only. Not all parts may be available as individual items.

Parts List

REF	PART #	DESCRIPTION
1	PSB1044001	CUTTING FLUID TANK
2	PSB1044002	HINGED TANK COVER
3	PSB1044003	MOTOR/PUMP 1/8HP 3-PH 220V/440V
4	PSB1044004	FLUID DELVERY HOSE 1/2" X 9ft
5	PSB1044005	ELBOW FITTING
6	PSB1044006	SWIVEL CASTER
7	PSB1044007	SPLASH GUARD
8	PSB1044008	COOLANT TROUGH
9	PSB1044009	DRAIN PORT
10	PBHS09M	BUTTON HD CAP SCR M6-1 X 12
11	PWNO1M	WING NUT M6-1
12	PSBH935M	BUTTON HD CAP SCR M5-.8 X 10
13	PCAP26M	CAP SCREW M6-1 X 12
14	PCAP24M	CAP SCREW M5-.8 X 16
15	PBHS03M	BUTTON HD CAP SCR M8-1.25 X 16
16	PWO1M	FLAT WASHER 8MM
17	PWO2M	FLAT WASHER 5MM
18	PWO3M	FLAT WASHER 6MM
19	PSB1044019	REAR SPLASH PANEL
20	PSB1044020	FRONT SPLASH PANEL
21	PSB1044021	HOSE CLAMP 1-3/4"
22	PSB1044022	DRAIN HOSE 1-3/4" X 5ft
23	PSB1044023	PLUG
24	PSB1044024	FLEX-CONDUIT POWER CORD 9ft
25	PSB1044025	STRAIN RELIEF
26	PSB1044026	HOSE CLAMP 3/4"

Warranty

This quality product is warranted by South Bend Lathe Company to the original buyer for one year from the date of purchase. This warranty does not apply to consumable parts, or defects due to any kind of misuse, abuse, negligence, accidents, repairs, alterations or lack of maintenance. We do not reimburse for third party repairs. In no event shall we be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our products.

We do not warrant or represent that this machine complies with the provisions of any law, act, code, regulation, or standard of any domestic or foreign government, industry, or authority. In no event shall South Bend's liability under this warranty exceed the original purchase price paid for this machine. Any legal actions brought against South Bend Lathe Company shall be tried in the State of Washington, County of Whatcom.

This is the sole written warranty for this machine. Any and all warranties that may be implied by law, including any merchantability or fitness, for any purpose, are hereby limited to the duration of this warranty. To take advantage of this warranty, contact us by mail or phone to give us the details of the problem you are having.

Thank you for your business and continued support.